Important Advances in Clinical Medicine

Epitomes of Progress -- Dermatology

The Scientific Board of the California Medical Association presents the following inventory of items of progress in Dermatology. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole is generally given for those who may be unfamiliar with a particular item. The purpose is to assist the busy practitioner, student, research worker or scholar to stay abreast of these items of progress in Dermatology which have recently achieved a substantial degree of authoritative acceptance, whether in his own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Dermatology of the California Medical Association and the summaries were prepared under its direction.

Reprint requests to: Division of Scientific and Educational Activities, 693 Sutter Street, San Francisco, Ca. 94102

Liver Disease, Psoriasis, and Methotrexate

Methotrexate, called the "most effective treatment for psoriasis that has been used to date" (Van Scott) has many potential disadvantages which have been stressed in recent editorials. There are now reports of seven cases of cirrhosis associated with methotrexate given for psoriasis. Liver biopsy studies on patients with psoriasis who have not been given methotrexate have been reported from Sweden, France and Italy. There is a high incidence of fatty liver in these persons, and a higher-than-expected incidence of cirrhosis. Abuse of alcohol may play a part in many, but the finding of cirrhosis in a 13-year-old girl with untreated psoriasis raises the question of a possible direct association of psoriasis and pre-cirrhosis or cirrhosis. Traditional liver function tests, including BSP, may be inadequate to detect such changes. Some authorities are now recommending wider use of liver biopsy before and during methotrexate therapy for psoriasis.

REES B. REES, M.D.
HOWARD SHAPIRO, M.D.

Methotrexate and psoriasis (Editorial). JAMA 209:1898, 1969
Psoriasis, methotrexate, and cirrhosis (Editorial). JAMA 212:314-315, 1970
Berge G, Lundquist A, Rorsman H, et al: Liver biopsy in psoriasis. Brit J Derm 82:250-253, 1970

Antimalarial Drugs in Dermatology

The use of the 4-aminoquinoline compounds chloroquine and hydroxychloroquine in dermatology continues to be valid. The principal indi-

cation is active, progressively scarring, cutaneous lupus erythematosus not responsive to local therapy. Antimalarial agents are also used as adjuncts in the therapy of SLE and certain photodermatoses. The mode of action is unknown through inhibition of DNA synthesis, binding to malanin, and stabilization of lysosomes account for some of the pharmacological actions.

Retinal toxicity is the major deterrent to the use of antimalarial drugs. It is usually dose-related and largely irreversible. Hydroxychloroquine is less toxic, but also less efficacious. Other signs of ocular toxicity include corneal opacities, extraocular muscle weakness, and loss of accommodation. Psychosis, seizures, peripheral neuropathy, fetal injury and leukopenia are other serious side effects. Nonetheless, antimalarial therapy is indicated in certain cutaneous diseases, particularly mutilating cutaneous lupus erythematosus. Close clinical and opthalmological control is necessary.

DENNY L. TUFFANELLI, M.D.

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Bernstein H: Chloroquine ocular toxicity. Survey of Ophthal. 2:415-447, 1967

Weissmann G: Labilization and stabilization of lysosomes. Fed Proc 23:1038-1043, 1964

Rubin M, Thomas WC: Diplopia and loss of accommodation due to chloroquine. Arthritis Rheum 13:75-82, 1970

Photocontact Dermatitis

Photocontact dermatitis has become increasingly prevalent in the last two decades due to the popularity of sunbathing and to the increasing numbers of photosensitizing chemicals included in topically applied materials such as cosmetics and soaps. The antibacterial agents utilized in deodorant soaps, primarily the brominated salicylanilides and related compounds, and the essential oils and perfumes present in aftershave lotions and colognes have been the most consistent offenders. The diagnosis is suggested by the distribution of the dermatitis in the sun-exposed areas and confirmed by photopatch testing techniques (1, 2). These consist of the application of the suspected agents on the skin in duplicate under black paper occlusion. Twenty-four hours later one set of patches is removed and exposed to long UV rays (320 nm to 400 nm) through window glass. Any light source, including the sun, which emits a significant amount of this energy can be used for the irradiation. The next day the closed and exposed patch test sites are compared. A positive test reproduces the clinical eruption. This simple technique is invaluable to the diagnosis and treatment of the ever-increasing numbers of photosensitivity problems being seen by physicians.

JOHN H. EPSTEIN, M.D.

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Epstein S: Masked photopatch tests. J Invest Derm 41:369, 1963

Epstein JH, Wuepper KD, Maibach HI: Photocontact dermatitis to halogenated salicylanilides and related compounds. Arch Derm 97: 236, 1968

Enzyme Defect in Xeroderma Pigmentosum

Xeroderma pigmentosum is an autosomal recessive disease, in which the outstanding feature is a high incidence of actinic skin carcinogenesis. Tissue cultures of xeroderma pigmentosum (XP) fibroblasts from skin biopsy specimens show characteristic biochemical changes in their responses to ultraviolet (UV) irradiation as compared with normal cells. XP cells are defective in their ability to repair DNA damage and are three to ten times as sensitive to killing by UV light. Repair of DNA damage from UV light involves (a) an enzymatic break in DNA made close to the damage, (b) removal of the damage, and (c) synthesis of a replacement region. The enzymatic defect in XP cells lies at the first step (a), and DNA damage is consequently unrepaired in such cells. In cells of the skin in XP patients, DNA damage produced by sunlight will be unrepaired and this may result in carcinogenesis, perhaps through consequent somatic mutations.

J. E. CLEAVER, PH.D.

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Setlow RB, Regan JD: Evidence that xeroderma pigmentosum cells do not perform the first step in the repair of ultraviolet damage to their DNA. Proc Nat Acad Sci US 64:1035, 1969